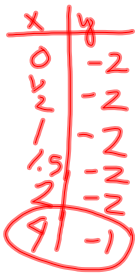
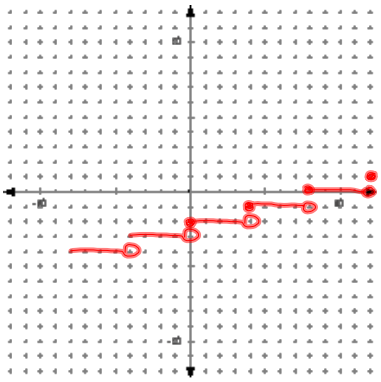
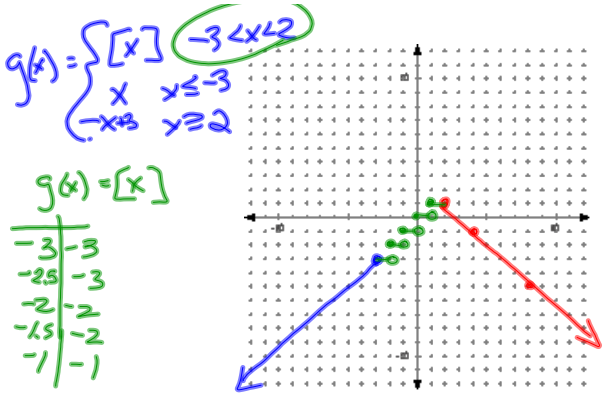
Warm-up!

Graph
y = [.25x] - 2







2-6 continued

Absolute Value Graphs

$$y = a|x - h| + k$$

y=|x|

Calculator

desmos

Graph
y = |x|
Now graph
y = |x| +2
y = |x| - 3
What affect does k have on the graph?

Clear all Graphs except
y = |x|
Now graph
y = |x+2|
y = |x-3|
What affect does h have on the graph?

h shifts graph left/right
k shifts graph up/down

V(h,k)

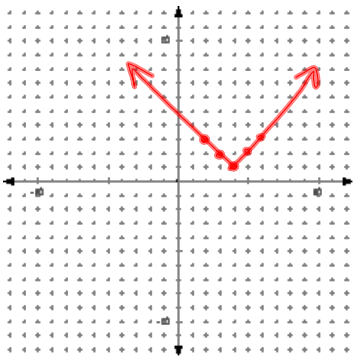
What about a?

a narrow/wide

Let's graph
y = |x-4| + 1

V(4, 1)

x	y
2	3
3	2
4	1
5	2
6	3

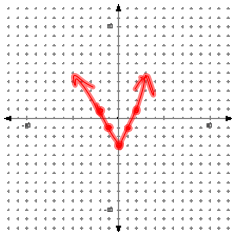


a narrow/wide

Let's graph
y = 2|x| - 3

V(0, -3)

x	y
-2	1
-1	-1
0	-3
1	-1
2	1



Handout (1-3 together)

1. V(0,-3)
$y = |x| - 3$

2. V(-3,-1)
$y = |x+3| - 1$

3. V(2,1)
$y = -|x-2| + 1$

Summary
y = a|x-h| + k

a-----controls "slope" (wide or narrow)
negative (upside down)

Vertex--point at bottom or top of graph
V(h, k)
h shifts left and right
k shifts up or down